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MAIL STOP: APPEAL BRIEF-PATENTS

By: 
Alfred K. Dassler

Date: February 17, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

Applic. No. : 09/718,896 Confirmation No.: 2982
Inventor : Joachim Boretzky, et al.
Filed : November 22, 2000
Title : Plant for the Treatment of Residue
TC/A.U. : 1764
Examiner : Alexis A. Wachtel
Customer No. : 24131

Hon. Commissioner for Patents
Alexandria, VA 22313-1450

BRIEF ON APPEAL

S i r :

This is an appeal from the final rejection in the Office action dated July 12, 2004, finally rejecting claims 1-7.

Appellants submit this *Brief on Appeal* in triplicate, including payment in the amount of \$500.00 to cover the fee for filing the *Brief on Appeal*.

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Real Party in Interest:

This application is assigned to Siemens Aktiengesellschaft of München, Germany. The assignment will be submitted for recordation upon the termination of this appeal.

Related Appeals and Interferences:

No related appeals or interference proceedings are currently pending which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

Status of Claims:

Claims 1-7 are rejected and are under appeal. No claims were cancelled.

Status of Amendments:

No claims were amended after the final Office action. A Notice of Appeal was filed on December 17, 2004.

Summary of the Claimed Subject Matter:

As stated in the first paragraph on page 1 of the specification of the instant application, the invention relates to a plant for the treatment of inhomogeneous residue from a thermal waste disposal plant, in particular from a pyrolysis plant.

Appellants explained on page 10 of the specification, line 3, that in all the figures of the drawing, sub-features and integral parts that correspond to one another bear the same reference symbol in each case. Referring now to the figures of the drawing in detail and first, particularly, to Fig. 1 thereof, there is shown an inhomogeneous residue IR being fed to a coarse screen 2 in a plant for treating the inhomogeneous residue IR. The inhomogeneous residue IR is preferably pyrolysis residue from a pyrolysis plant. In the coarse screen 2, the inhomogeneous residue IR is separated into a coarse residue GR and a remainder residue R. The coarse residue fragments GR are for example larger than 200 mm, and are collected and are transported away, as required. The coarse screen 2 is preferably a spiral screen, as illustrated in Fig. 2.

Appellants also stated on page 10 of the specification, line 18, that, after the bulky constituents have been separated, the residue R is supplied, via a cellular-wheel sluice 4 and via a feed conduit 18, to an air separator designated as a zigzag separator 6. The zigzag separator 6 is configured as a zigzag-shaped duct 8 which extends essentially in the vertical direction and which has a plurality of bends 10. The zigzag separator 6 possesses a lower outlet 12 for heavy residue SR and an upper outlet 14 for light residue LR. Air L flows

through the zigzag separator 6 from its lower outlet 12 to its upper outlet 14. The cellular-wheel sluice 4 prevents an air leakage stream out of the zigzag separator 6 from branching off towards the coarse screen 2 via the feed conduit 18.

As set forth on page 11 of the specification, line 5, the light residue LR is entrained to the upper outlet 14 by the airflow, whereas the heavy residue SR settles towards the lower outlet 12. An abrupt change in direction of the flow direction of the air L takes place at each of the bends 10, so that the residue R entrained by the air L is exposed to radial forces. As a result, heavy residual fragments SR impinge, as a rule, against the walls of the duct 8. In particular, sheet-like heavy residue fragments SR, the flat side of which is initially aligned with the air direction and which are therefore first carried along by the air L, despite the fact that their specific gravity is too high, change their alignment with the flowing air L at the bends 10 and fall downwards.

It is further stated on page 12 of the specification, line 15, that, in the air separator drum 26 which is connected to the lower outlet 12 of the zigzag separator 6 and to the centrifugal screen 24, the heavy residue SR is circulated, so that light residue constituents LR adhering to the heavy

residual fragments are separated. Air L flows through the air separator drum 26 in the direction of the zigzag separator 6 and entrains the light and separated residue constituents LR into the zigzag separator 6.

Appellants also outlined on page 18 of the specification, line 10, that Fig. 4 shows a section through the air separator drum 26. The air separator drum 26 is rotatable about a drum axis 70 and has on an inner wall of its drum 72, for example, hook-shaped drivers 74. Due to the drivers 74, the heavy residue SR fed into the air separator drum 26 is raised and subsequently falls down again. As a result, light residues LR, which adhere to the heavy residual fragments SR, are released from the latter and are entrained to the zigzag separator 6 by the air flowing through the air separator drum 26.

References Cited:

4,077,847	Choi, et al.	March 7, 1978
4,178,232	Nollet	December 11, 1979
4,878,440	Tratz, et al.	November 7, 1989
5,321,898	Robinette, Jr. et al.	June 21, 1994

Grounds of Rejection to be Reviewed on Appeal

1. Whether or not claims 1, 5, 6, and 7 are obvious over Choi et al. (U.S. Patent No. 4,077,847) (hereinafter "Choi") in view of Tratz et al. (U.S. Patent No. 4,878,440) (hereinafter "Tratz") and Nollet (U.S. Patent No. 4,178,232) under 35 U.S.C. §103.
2. Whether or not claims 2-4 are obvious over Choi (U.S. Patent No. 4,077,847) in view of Tratz (U.S. Patent No. 4,878,440) and Nollet (U.S. Patent No. 4,178,232) and Robinette Jr. et al. (U.S. Patent No. 5,321,898) under 35 U.S.C. §103.

Grouping of Claims:

Claim 1 is independent. Claims 2-7 depend on claim 1. The patentability of claims 2-7 are not separately argued. Therefore, claims 2-7 stand or fall with claim.

Argument:

Claim 1 is not obvious over Choi in view of Tratz and Nollet
under 35 U.S.C. §103:

Claim 1 calls for, *inter alia*:

the air separator drum having a longitudinal axis, an inner wall, and drivers disposed on the inner wall.

The Choi reference discloses a solid waste disposal system including a zigzag shaped classifier (146) operated by air. The overall system disclosed in Choi includes shredding waste, separating it into different fractions, and finally burning combustible fractions.

The Choi reference teaches away from the present invention because Choi teaches a thermal waste process after solid waste has been separated by the zigzag classifier (146).

It is noted that the corporate assignee of Tratz is also the assignee of the instant application. Therefore, applicants are very familiar with the reference.

The Tratz reference discloses a residue sorting device (22), which may be constructed in the form of a sieve disposed downstream of a pyrolysis drum (2).

The sieve disclosed in Tratz serves the purpose of separating fractions contained in waste that has been pyrolysed.

Therefore, a person of ordinary skill in the art would not consider disposing the sieve disclosed in Tratz immediately after the shredder in the system disclosed by Choi.

Moreover, the Nollet reference discloses an apparatus for separating solid materials, where the system has an air drum (14). The air drum (14) is constructed for handling solid waste and not pyrolysed waste. Accordingly, both the zigzag-shaped classifier of Choi and the air drum of Nollet are used for handling solid waste and not pyrolysed waste. Therefore, disposing the air drum (14) of Nollet downstream of the lower outlet of the zigzag-shaped classifier in Choi does not obviate the invention of the instant application.

Furthermore, It is a requirement for a *prima facie* case of obviousness, that the prior art references must teach or suggest all the claim limitations.

The references do not show or suggest the air separator drum having a longitudinal axis, an inner wall, and drivers disposed on the inner wall, as recited in claim 1 of the instant application.

The references applied by the Examiner do not teach or suggest all the claim limitations. Therefore, it is believed that the Examiner has not produced a *prima facie* case of obviousness.

In summary, Choi discloses pyrolysing waste after separation. Choi does not disclose a zigzag classifier, which is constructed for handling waste coming out of the thermal waste process.

Therefore, a person of ordinary skill in the art would not dispose the sieve disclosed in Tratz and the air drum disclosed in Nollet in a system as disclosed in Choi. Therefore, the present invention as claimed is not obvious over Choi in view of Tratz and Nollet.

The present invention is not just an arbitrary arrangement of features, but instead, it is a careful selection of components and a careful selection of their respective locations which is not shown or suggested by the prior art and which provides substantial advantages thereover.

A critical step in analyzing the patentability of claims pursuant to 35 U.S.C. § 103 is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614,1617 (Fed. Cir. 1999). Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." Id. (quoting W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)).

Most if not all inventions arise from a combination of old elements. See In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453,1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. See id. However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. See id. Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific

combination that was made by the appellant. See In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 163.5, 1637 (Fed. Cir. 1998); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125,1127 (Fed. Cir. 1984) .

The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. In addition, the teaching, motivation or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. See WMS Gaming, Inc. v. International Game Tech., 184 F.3d 1339, 1355, 51 USPQ2d 1385, 1397 (Fed. Cir. 1999). The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981) (and cases cited therein). Whether the examiner relies on an express or an implicit showing, the examiner must provide particular findings related thereto. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. Broad conclusory statements standing alone are not "evidence." Id. When an examiner relies on general knowledge to negate patentability, that knowledge must be articulated and placed

on the record. See In re Lee, 277 F-3d 1338, 1342-45, 61
USPQ2d 1430, 1433-35 (Fed. Cir. 2002).

Upon evaluation of the Examiner's comments, the evidence
adduced by the Examiner is insufficient to establish a prima
facie case of obviousness with respect to the claims.

Since claim 1 is believed to be allowable, dependent claims 2-
7 are believed to be allowable as well.

Based on the above given arguments, the honorable Board is
therefore respectfully urged to reverse the final rejection of
the Primary Examiner.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'AKD', is written over a horizontal line.

Alfred K. Dassler (52,794)

AKD/bb

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Claims Appendix:

1. A treatment plant, comprising:

a coarse screen receiving an inhomogeneous residue from a thermal waste disposal plant, said coarse screen separating the inhomogeneous residue into a coarse residue and a remaining residue;

an air separator disposed downstream of said coarse screen and receiving the remaining residue, said air separator having a zigzag-shaped duct with an upper outlet and a lower outlet and through which air is capable of flowing, said zigzag-shaped duct separating the remaining residue into a light residue flowing toward said upper outlet and a heavy residue flowing toward said lower outlet; and

an air separator drum connected to said lower outlet and through which the air can flow, said air separator drum having a longitudinal axis, an inner wall, and drivers disposed on said inner wall, said air separator drum mounted rotatably about said longitudinal axis.

2. The plant according to claim 1, including a centrifugal screen connected to said upper outlet, said centrifugal

screen having a housing, a rotor disposed in said housing, and a screen disposed between said rotor and said housing.

3. The plant according to claim 2, wherein said centrifugal screen has battens fastened to said rotor.

4. The plant according to claim 2, wherein said centrifugal screen has a balling zone and a grinding zone, and said screen is disposed around said rotor in a region of said grinding zone.

5. The plant according claim 1, including a separating device for separating the heavy residue into an inert fraction and into at least one metal fraction, said separating device disposed downstream of said air separator drum.

6. The plant according to claim 1, wherein the thermal waste disposal plant is a pyrolysis plant.

7. The plant according claim 5, wherein the at least one metal fraction includes a ferrous fraction and a non-ferrous fraction.